

InfoNorth

Boris Aleksandrovich Kremer (1908–76)—*Polyarnik*

by William Barr

INTRODUCTION

OVER THE DECADE 1733–43, the Russian Admiralty College mounted one of the most impressive operations in the entire history of geographical exploration: the Great Northern Expedition. Seven separate detachments were dispatched, five of them to explore and map different sections of the Arctic coast of Eurasia, one to head south from Okhotsk to the Kuril Islands and Japan, and the seventh to sail east from Kamchatka to locate the coast of America. The operation was amazingly successful, the result being a fairly detailed map of the entire Arctic coast (except for the section from just east of the mouth of the Kolyma River to the Bering Strait) and also of Kamchatka and the Kuril Islands, plus a section of the west coast of mainland Alaska and a number of the Aleutian Islands (Belov, 1956).

One of the more intriguing aspects of the Great Northern Expedition is that by a remarkable coincidence, eight of the officers in command of the various detachments all came from what are now the contiguous, landlocked regions of Kaluzhskaya Oblast' [Kaluga Province] and Tul'skaya Oblast' [Tula Province], lying just south of Moscow, the entire region being generally known as Priokskiy kray (Priokskiy region), which is the middle section of the Oka River basin. They included such well-known figures as Semen Ivanovich Chelyuskin, who first reached the cape now named after him, the northernmost point on the Eurasian mainland, in May 1742, while traveling by dog-team, and Aleksei Il'ich Chirikov, who, along with Vitus Bering, reached the coast of western Alaska in the summer of 1741 (Romanov, 1982). While the names of these explorers are well known to Russian historians and members of the public (and many of them also to English-speaking historians), by yet another coincidence, another native of Tul'skaya Oblast', while not an explorer, is well known to Russian historians for his contribution to Soviet Arctic history, namely that of meteorologist Boris Aleksandrovich Kremer.

EARLY YEARS

The youngest of seven children born to Aleksandr Yakovlevich Kremer, a mathematics teacher, and

Yekaterina Terent'yeva, Boris Aleksandrovich was born on 18 March 1908 at the village of Novaya Kolpna (now the town of Shchekino about 40 km south of Tula) (Kanevskiy, 1982:115). His father had a superb library, of which young Boris Aleksandrovich took full advantage as soon as he had learned to read, being particularly fond of books on travel and exploration. In 1921, however, the family suffered a disastrous sequence of events—Yekaterina Terent'yeva died suddenly after an unsuccessful operation for appendicitis, and soon afterwards Aleksandr Yakovlevich died of typhus.

Boris Aleksandrovich's teenage years were tough; for a while he lived with an aunt in Aleksin, about 70 km northwest of Tula. When his elder brother, a mine surveyor, arranged for him to be employed as a lift operator in a mine, Boris Aleksandrovich left school and moved back to Shchekino. Then in 1926 he moved to Moscow, where he lived with his brother Nikolai and sister Tamara and worked at a range of jobs, including that of a labourer on building sites and a loader at railway yards. Nonetheless he found time for attending concerts to hear symphonies by Shostakovich and N.Ya. Myaskovskiy. He also visited many art galleries, specially the Museum of New Western Art. He also read very widely, not just Russian literature but also Shakespeare, Homer, and Dante (in Russian translation).

In 1930 he obtained a permanent position at the Steklomashina factory as a metal lathe operator. More than once metal slivers hit him in the eyes, which left scars on his eyeballs for the rest of his life; thereafter, he continued to work at the same factory as a watchman. Then, through a chance connection he joined a geological expedition to Crimea as an assistant, which led in turn to a job in a salt mine near Krasnoperekopsk, also in Crimea.

On his return to Moscow he renewed contact with a young lady, Natal'ya Valentinovna, with whom he had started a relationship in 1926–27. In the summer of 1931 they were married. He had returned to his job at the Steklomashina factory while she, having graduated from the Faculty of History and Philosophy at Moscow State University, joined the staff of the Antireligion Museum of Art located in the Donskiy Monastery. They lived at various locations—for some time in a hostel, sometimes with relatives, sometimes in a friend's temporarily vacant apartment. Their daughter, El'vira, was born on 5 December 1932.



Б. Кремер

FIG. 1. A youthful Boris Kremer (Courtesy of the Russian Geographical Society).

METEOROLOGIST

By then Boris Aleksandrovich had started on a career path that he would pursue for the rest of his life. He had become interested in the details of the Second International Polar Year (1932–33), which were much in the news, and by chance had become friends with two meteorologists, Sergei Petrovich Khromov and Lidiya Ivanovna Mamontovaya, the latter a senior meteorologist at the Moscow Meteorological Observatory named after Prof. V.A. Mikhel'son. Through these contacts, Boris Aleksandrovich started working at the Meteorological Observatory as a trainee observer in late 1932 (Fig. 1). He quickly moved up through the ranks to full-fledged meteorologist, senior meteorologist, and meteorological inspector in the United Hydrometeorological Service. The latter position involved training meteorologists and overseeing the operations of weather stations in the Moscow area.

But then in 1935 he took the first step that would lead to a career in the Arctic. He joined the Chief Administration of the Northern Sea Route (Glavsevmorput) as a senior meteorologist/observer. One day he was in the office of Nikolai Mikhailovich Topol'nitskiy, head of the



FIG. 2. Boris Kremer (left) and radio operator Ernst Krenkel', 1941 (Courtesy of Priroda).

Hydrometeorological Division of Glavsevmorput, when a stranger walked in: the radio operator Ernst Teodorovich Krenkel' (Fig. 2), already famous throughout the USSR (Kremer, 1975). Krenkel' had already spent three winters in the Arctic—two at Matochkin Shar on Novaya Zemlya and one at Bukhta Tikhaya [Tikhaya Bay] on Zemlya Frantsa-Iosifa [Franz Josef Land]. He had also served on board the airship *Graf Zeppelin* on its Arctic flight in 1931 (Kohl-Larsen, 1931); as one of the radio operators on board *Aleksandr Sibiryakov* during its record-breaking (if almost disastrous) one-season transit of the Northern Sea Route in 1932 (Barr, 1978); and most famously, as chief radio operator on board *Chelyuskin* during that ship's equally less-than-successful transit of the Northern Sea Route in 1933 (Shmidt and Members of the Expedition, 1935). Most importantly, his skills as a radio operator had been crucial in coordinating the rescue of the ship's complement from an ice camp in the Chukchi Sea after the ship was crushed and sank.

FIRST POSTING – MYS OLOVYANNIY [CAPE OLOVYANNIY], SEVERNAYA ZEMLYA

Krenkel' was now preparing to establish and operate a weather station at Mys Olovyanniy at the western entrance of Proliv Shokal'skogo [Shokal'skiy Strait] on Ostrov Oktyabr'skoy Revolyutsii [October Revolution Island] on Severnaya Zemlya and was looking for a reliable (and congenial) weather observer (Fig. 3). On Topol'nitskiy's recommendation, Krenkel' offered the position to Kremer, who accepted immediately. Joined by radio operator Aleksei Alekseyevich Golubev and mechanic Nikolai Georgiyevich Mekhen'gin, they sailed north from Arkhangel'sk in August 1935 onboard *Sibiryakov* with Captain Yu.K. Khlebnikov. A brigade of builders erected a living hut and a store hut on Mys Olovyanniy, a small rocky cape projecting from under the ice cap that covers most of Ostrov Oktyabr'skoy

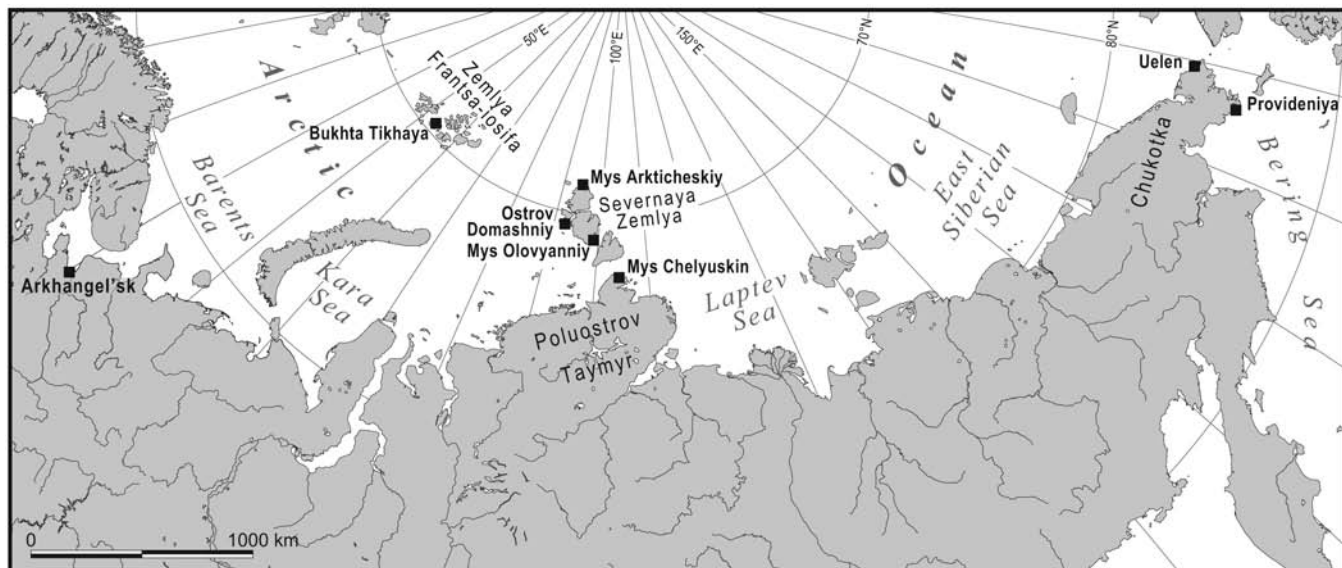


FIG. 3. The Russian Arctic, showing the Soviet weather stations at which Kremer served.

Revolutsii. But Captain Khlebnikov, afraid of deteriorating ice conditions, was in a hurry to depart, and the four men themselves had to take care of many of the internal details. One of Kremer's first tasks was also to set up his own weather station—a standard Stevenson screen, snow gauge, rain gauge, and wind-vane and anemometer on top of a high pole, which his companions helped to erect. To reach his weather station he also built wooden boardwalks across the angular rocks, which otherwise would have been very dangerous when iced up and in the dark. He also built a worktable and a dining table. A team of sledge dogs had also been landed, and exercising them and hunting for seals to feed them became some of his favourite activities. Once they were more organized, he and his companions also set traps for Arctic foxes, which had to be checked regularly.

With regard to his official duties, four times per day he would take the readings of a standard synoptic weather observation, code the results, and hand the observation to the duty radio operator for transmission to the South. If there were ships or aircraft in the vicinity, he would also make one or more intermediate observations, often hourly.

For lighting they used kerosene lamps; they did have a very weak generator that produced sufficient power for a solitary electric light—on top of the anemometer post—extremely useful once the winter darkness set in. On one occasion in October, Kremer had gone out to take his regular readings without a rifle or even a revolver, when he encountered a bear at close quarters. He started to run towards the house; on pausing to look back, he saw the bear racing away in the opposite direction, pursued by the dogs.

In the early months of 1936, news of the Stakhanovite movement even reached Mys Olovyanii. On 31 August 1935 a miner in the Donbas (Donets Basin), Aleksei Gregoryevich Stakhanov, leading a team of three other men and armed with a drill, had mined 102 tons of coal (14 times his norm) during a standard seven-hour shift. The

feat was widely reported in the press and the Stakhanovite movement was born, strongly supported by the Party. Very soon, attempts were being made throughout the country and throughout the economy to achieve comparable feats of overproduction. At Mys Olovyanii, their first Stakhanovite operation involved collaboration with the station at Mys Chelyuskin [Cape Chelyuskin] to mount a 15-day hydrological station in Proliv Shokol'skogo in addition to the normal duties at each station (Kremer, 1975). Two hydrologists, a dog-driver, and a dog team were flown from Mys Chelyuskin in several flights by a Polikarpov R-5 single-engined monoplane. Starting on 4 March, soon after the sun had returned, the two hydrologists plus Krenkel' and Mekhen'gin carried out the hydrological work (readings of salinity and temperature plus current measurements from a small hut built over a hole chopped in the sea ice), while Kremer and Golubev carried out hourly tidal measurements close to shore. All of this was in addition to their normal duties.

But Krenkel' was not satisfied even with this. He proposed to Glavsevmorput's headquarters that as a further Stakhanovite operation, he and Mekhen'gin should re-open the station on Ostrov Domashniy [Domashniy Island], off the west coast of Severnaya Zemlya, for the summer. First established by Georgiy Alekseyevich Ushakov and team in 1930 (Barr, 1978), the station had been sitting empty for almost two years. Thus, this second Stakhanovite demonstration had the four men operating two stations instead of one (Kanevskiy, 1982:135–136). On 31 March two R-5 planes on skis landed at Mys Olovyanii and flew Krenkel' and Mekhen'gin to Ostrov Domashniy, where they re-opened the "moth-balled" station. Within a few days they were transmitting their weather reports. Prior to their departure Kremer had given Krenkel' a crash course on weather observing and Golubev had given Mekhen'gin a crash-course on operating a generator and batteries.

IN TOTAL CHARGE – FOR ANOTHER YEAR

Thus it was that after only six or seven months of experience Kremer found himself in charge of an Arctic weather station. This contribution to the Stakhanovite movement inevitably placed great stress on the personnel at both stations; in each case the two men soon became seriously sleep-deprived, trying to handle the work of four men. Worse still, at Ostrov Domashniy, relying on just the food which had been left in 1934, adequate in amount, but limited in variety, and without any possibility of hunting, both Krenkel' and Mekhen'gin developed scurvy.

Fortunately in September 1936, *Sibiryakov* was able to reach Ostrov Domashniy and to evacuate the two men. But when she next tried to reach Mys Olovyaniiy, she encountered extremely heavy ice and was unable to reach the station. She was solidly beset for two weeks and was obliged to call on the more powerful veteran icebreaker *Yermak* (Captain Vladimir Ivanovich Voronin) for assistance (Gakkel', 1936:446). *Yermak* was able to free her on 7 October, but even then she was unable to reach Mys Olovyaniiy. Thus Kremer and Golubev were faced with the prospect of spending a second winter, but now just as a two-man party.

They had adequate provisions to last for a further year—canned foods, flour, sugar, tea, butter, sausages, and Kremer had mastered the skills of baking bread. They also killed the occasional bear as well as seals and thereby were assured of fresh meat; thus, along with their spending as much time as possible outdoors they managed to ward off scurvy.

Around mid-summer 1937, the pilot Vasiliy Mikhailovich Makhotkin flew in, landing on skis on the sea ice in the middle of a snowstorm. He had instructions from Otto Yul'yevich Shmidt, now head of Glavsevmorput, to fly Kremer and Golubev south if they wanted to go. The two men decided, however, on the grounds that the navigation season would soon begin and that the ships' captains would be relying on their weather reports, that they should stay until a ship arrived for them. Unfortunately, however, 1937 was a "bad" ice year and no ship was able to reach Mys Olovyaniiy. On 13 September 1937, Makhotkin returned and evacuated the two men, along with the cat, Luka, and seven dogs. They flew to Arkhangel'sk and then took the train south, reaching Moscow on 27 September 1937.

On Shmidt's orders, Kremer and family were now allotted a room in the Dom Polyarnika [Polyarnik's House], controlled by Glavsevmorput, on Nikitskiy (later Suvorovskiy) Bul'var, and thus Kremer had many like-minded neighbours. By now Krenkel' had been appointed head of the Arctic Stations Division of Glavsevmorput and was thus responsible for appointments.

BUKHTA TIKHAYA, ZEMLYA FRANTSA-IOSIFA

On the basis of having worked with Kremer on Ostrov Olovyaniiy, Krenkel' had had a chance to assess Kremer's

qualities and he now appointed him head of the station at Bukhta Tikhaya on Ostrov Gukera ([Hooker Island] in Zemlya Frantsa-Iosifa for 1938–39. First established as a weather station in 1929, it had now evolved into a major Arctic observatory with more than a dozen scientists plus support staff (a cook, doctor, mechanic, and others) and including several women. Disciplines pursued (in addition to meteorology) included hydrology, actinometry, geomagnetism, atmospheric electricity, botany, zoology, and the study of aurora borealis. For Kremer, the contrast with Mys Olovyaniiy could scarcely have been greater.

Despite his lack of formal scientific training, Kremer was able to establish a good rapport with the relatively wide range of specialists working at the station. He was able to instill a collaborative atmosphere, which led to very useful results. In the summer of 1939, congratulatory messages started to pour in, including one from Ivan Dmitriyevich Papanin, now head of Glavsevmorput. There was also one from Krenkel', which ended with a suggestion—not really an order—that Kremer might want to remain at Bukhta Tikhaya for a second wintering. Not surprisingly Kremer had also been receiving messages from Natal'ya saying how much she and El'vira missed him, and she now advised him not to accept Krenkel's "invitation" to stay for a second winter. But she was unable to dissuade him.

Kremer's second winter at Bukhta Tikhaya seemed to pass remarkably quickly; its output continued to be considerable, and the atmosphere generally remained congenial. On 30 May 1940 a message was received from the Praesidium of the Supreme Soviet of the USSR with details of awards to *polyarniki*: "For his outstanding service in the matter of conquering the Northern Sea Route and his exemplary and selfless work," the leader of the Bukhta Tikhaya Observatory received the order of the "Znak Pocheta" [Mark of Honour] and he was given the title of "Pochetniy polyarnik" [Honoured polyarnik]. A number of his colleagues at Tikhaya Bukhta also received awards, certificates of honour, and money prizes. Fortunately in September 1940, *Sibiryakov* was able to reach Bukhta Tikhaya, where she picked up Kremer and all the other personnel due for relief and took them south.

MYS ARKTICHESKIY [CAPE ARKTICHESKIY],
SEVERNAYA ZEMLYA

At that time, serious thought was being given in Moscow to the possibility of developing a "high-latitude variant" of the Northern Sea Route, running north of Severnaya Zemlya and the Novosibirskiye Ostrova [New Siberian Islands]. With this plan in mind, it was decided in 1941 to establish a small station for the summer at Mys Molotova [Cape Molotov] (now Mys Arkticheskiy), the northern tip of Severnaya Zemlya (Kanevskiy, 1982:150). Kremer was called upon to mount a small expedition to that site to see if it were suitable for a permanent station to support this "northern variant" by producing regular

weather and ice reports. Accompanied by radio operator Vsevolod Nikolayevich Skvortsov and mechanic Nikolai Spirodonovich Kapov, he would spend the summer of 1941 on this reconnaissance expedition.

The three men flew north in the spring of 1941 in a Tupolov ANT-6 (a twin-engined heavy aircraft) piloted by A.N. Tyagunin, who landed it on skis on 9 May 1941 on the small ice-cap that covers the entire northern tip of Ostrov Komsomolets [Komsomolets Island], about 7 km from the coast. The three passengers quickly unloaded the hut that was to be their base, along with provisions for six months, equipment, and a powerful radio.

The hut was effectively a plywood box measuring 4.3×2 m. In it they had to find room for three bunks, the radio equipment, a cooking area, and a large stove. Initially, however, they had no fuel for the stove. Only after the snow had melted, towards the end of July, were they able to find some driftwood along the shore. Till then their only source of heat was a primus stove, and to save kerosene they cooked only twice per day, and thus it was tolerably warm only twice per day. Even worse than the cold was the fact that it was always damp in the hut. Just as at Mys Olov'yanniy six years earlier, each man learned the other's skills: Skvortsov learned to take the scheduled weather observations, while Kremer sharpened his skills of transmitting by radio using Morse code. Besides the weather programme, they also collected rock and plant specimens. The weather was generally overcast, with frequent fogs, snow, and strong wind, producing blizzard conditions even in July. Kremer had to report that because of the weather and the topography of the island, there was no suitable site for an airstrip. He could not even find a site that he could recommend for a permanent station.

On 22 June 1941, they learned of the German attack on the Soviet Union. Along with the other 444 men (and women) manning stations across the Soviet Arctic, for the next few months they had to listen impotently to the news of the German advance across Poland and almost to Moscow. Each of them was naturally extremely worried about the fate of their families. But they also had serious concerns about their own future: they suspected that their chances of evacuation in the fall, as had been planned, were slim, and started contemplating the possibility of spending a winter in a hut measuring less than 9 m^2 , with provisions originally designed to last only six months. But on 27 August the icebreaker *Sadko*, with Captain A.G. Korel'skiy, appeared offshore. Because of heavy ice it had taken him three attempts to push north from Ostrov Domashniy. Having closed up the station, Kremer and his men, hauling a light sledge with their clothes and personal gear, started across the ice cap towards the coast, 7 km away. Fog and heavy snow made the trip extremely unpleasant, and they progressively jettisoned the load from the sledge. Fortunately, their predicament was spotted by the men on board *Sadko*, and a landing party came to their rescue, climbing up on to the ice cap to assist them. Seven hours after they had started, Kremer and his men were

helped aboard the ship to be greeted by a warm welcome, a sumptuous meal, a hot shower, and a blissful rest. They reached Dikson, at the mouth of the Yenisey River, on 2 September (Kanevskiy, 1982:156).

OSTROV DOMASHNIY, SEVERNAYA ZEMLYA

But at Dikson, Kremer received a message from Papanin, asking him to reopen the station on Ostrov Domashniy that had been sitting empty since 1936. Assured that he and his companions would be relieved in six months, accompanied by Skvortsov again and by Il'ya Ivanovich Shentsov as mechanic, Kremer was flown north in a Dornier Wal flying boat, piloted by Mikhail Nikolayevich Kaminiskiy. Since the plane would be almost at the limit of its normal range, it was carrying extra fuel, and there was no room for any significant amount of fresh food in addition to the three men and their personal gear. The three men spent a fairly uneventful winter, making the standard meteorological observations and transmitting the results. In the spring, pilot Georgiy Konstantinovich Orlov made several attempts to fly north to relieve them, but he was foiled each time by mechanical problems or bad weather. In mid-August, they were informed that a ship was just leaving Dikson bound for Ostrov Domashniy with their reliefs, led by radio operator Anatoliy Sharshavin, and with 40 tons of coal, fresh food (including live pigs and fodder for them). The ship's name, however, was not mentioned; it was in fact *Aleksandr Sibiryakov*, Captain Anatoliy Alekseyevich Kacharava, with 104 people on board (including reliefs for various stations and construction crews).

But as the days and weeks passed, the ship did not reach Ostrov Domashniy, nor, under wartime conditions, did any information as to what had happened to it. In fact, it had been intercepted by the German pocket battleship *Admiral Scheer*, and in a very unequal battle had been sunk (Barr, 1975a). Eighteen men were taken prisoner, the rest having been killed. The hopes of Kremer and his companions were raised on 6 September when a ship appeared, but it had not come to relieve them; it was the hydrographic vessel *Murmanets* on a standard hydrographical patrol. Its captain gave them what food he could spare and then continued on his scheduled surveys.

From intercepted distress calls, Kremer and his companions were well aware that German U-boats were operating in the Barents and Kara Seas. In July one of them had fired on the station at Malye Karmakuly on the west coast of Novaya Zemlya. Then in August one of them attacked the station at Mys Zhelaniya [Cape Zhelaniye], at the northern tip of Novaya Zemlya. At Ostrov Domashniy they picked up that station's distress calls to say that the buildings were on fire (Kanevskiy, 1982:161). Then on 8 September, Skvortsov picked up a similar message from the station on Ostrov Uyedineniya [Uyedineniye Island]; it too was under fire from a U-boat. Since Ostrov Uyedineniya was relatively close, Kremer and his companions found this

particularly alarming. Their fears were well founded. Two years later, in September 1944, a large landing party from two U-boats put ashore at the station at Mys Sterlegova [Cape Sterlegov] on the mainland coast of the Kara Sea, took the staff of the weather station prisoner, forced them to continue recording and transmitting the weather on schedule, and before they departed with the station personnel as prisoners, destroyed the station by gunfire (Belov, 1969:520–521). As a precaution, Kremer and his colleagues established an emergency depot, complete with a tent and radio, at some distance from their station.

Kremer and his men now faced the prospect of a second winter with limited stocks of food. The supply of kerosene was exhausted, and they had to work by candlelight and by the light of homemade lamps burning animal fat. To obtain the latter, they hunted ringed seals, bearded seals, walrus, and polar bears; fortunately bears appeared at the station quite often. In the fall an airdrop was organized by Glavsevmorput; pilot Ivan Ivanovich Cherevichnyi dropped a range of food items, but many of the bags and cans split open on impact with the rocks; the area around the station was powdered with flour.

Despite their relatively abundant sources of fresh meat, early in the new year (1943) Shventsov fell ill; stress and malnutrition had caused a chronic kidney complaint to flare up. In February, the first ominous signs of scurvy appeared. He died on 3 March. Kremer and Skvortsov dug a shallow grave and piled the grave with rocks. Once again Kremer and Skvortsov were reduced to maintaining a full schedule of weather observing with only two men. In addition, in anticipation of a possible evacuation by air, they set about clearing an airstrip on the rough sea ice—in the winter darkness and with temperatures ranging between -30° and -40°C , and equipped only with picks and shovels (Kanevskiy, 1977:24). They survived the winter and the following summer, but in the fall Kremer detected the first signs of scurvy—his gums were noticeably swollen. On 12 September, a floatplane appeared, piloted by Aleksandr Timofeyevich Strel'tsov, but he could find no polynyas large enough on which to land and he headed back south. Next day, however, he returned and evacuated the two men to Dikson. Even then, however, their return home was still severely delayed. As they headed south up the Yenisey, their ship was caught by freeze-up near Turukhansk from October until January, when they were again evacuated by air. Thus they did not get home until January 1944. Kremer was now awarded a second *Znak Pocheta*, plus one of his most prized possessions, the medal “*Dlya Oborony Sovetskoy Arktiki*” (For Defence of the Soviet Arctic)."

UELEN, CHUKOTKA

Kremer's next posting was in the Far East—the station at Uelen on the Chukchi Sea very close to Mys Dezhnev [Cape Dezhnev] on the west side of the Bering Strait. A novel aspect as far as he was concerned was that four of his

five subordinates were young women. He assumed this new role quite readily, quite apart from supervising their official duties he would advise them on books he felt they should read and on listening to classical music. In many ways he felt something of an obligation “*in loco parentis*.” And of course, along with them, he experienced the emotion-filled celebrations of the end of the War on 9 May 1945.

In many ways this was a relatively “soft” posting. Being slightly south of the Arctic Circle, Uelen experiences no period of complete winter darkness, and the temperatures are relatively mild. And for Kremer it had the added attraction of a resident Indigenous population. He made friends among the local Chukchi and particularly enjoyed watching the local carvers producing works of art in walrus ivory.

MYS CHELYUSKIN

Once his replacement had arrived in the summer of 1945, Kremer flew home to Moscow, but almost immediately he was on his way to his new posting, as head of the research station at Mys Chelyuskin at the northern tip of Poluostrov Taymyr [Taymyr Peninsula] and thus also of Eurasia. With a population of 49, it was a huge establishment, even by comparison with Bukhta Tikhaya. Among the scientific staff (including women) were meteorologists, hydrologists, magnetologists, and actinometrists. A major event during Kremer's term of office, in October 1945, was the flight of Mikhail Alekseyevich Titlov to the North Pole and back during the period of winter darkness. Mys Chelyuskin had been selected as his point of departure from the mainland. It thus fell to Kremer to organize work crews to select and level an airstrip on the tundra. Titlov took off from there successfully, reached the North Pole, and returned safely to the mainland, landing at Chokurdakh on the lower Indigirka River.

BUKHTA PROVIDENIYA [PROVIDENCE BAY], CHUKOTKA

Over the previous few years, Boris Aleksandrovich had been receiving increasingly strongly expressed messages from Natal'ya as to how much she and El'vira missed him and begging him to settle down in the south. Accordingly, somewhat reluctantly, in the summer of 1946 he accepted the position of head of the automatic weather station division at Glavsevmorput headquarters. But it was not long before the Arctic called him again. In the summer of 1947 he took charge of the radio-weather centre at Bukhta Provideniya in Chukotka, about 200 km south-southwest of Mys Dezhnev. This was a major centre with an even larger population and a wider research programme than at Mys Chelyuskin. From here Kremer coordinated the weather-observing programme for all the stations throughout the eastern Soviet Arctic; this was particularly important in

terms of the support of shipping traffic on the eastern sector of the Northern Sea Route (Kanevskiy, 1977:21). And once again, for Kremer a real attraction was the presence of an Indigenous population, both Chukchi and Inuit, whose cultures he found quite fascinating.

He and Natal'ya had discussed the possibility of her and El'vira joining him at Provideniya but decided against this, mainly for El'vira's education, and for Natal'ya's career as an antiquarian archeologist at the State Historical Museum, with an active research programme in Crimea. But finally, in the summer of 1950, Boris Aleksandrovich returned to Moscow permanently.

BACK IN MOSCOW

For some time Kremer had been taking classes as an external student at the evening school on Krasnaya Pristan' and once back in Moscow he completed his final three classes in one year and in 1951 (at the age of 43) received his school-leaving certificate. In the fall of 1951, he registered as an external student within the Geography Faculty at Moscow State University (Kanevskiy, 1982:191).

He continued to be employed within the apparatus of Glavsevmorput, first as a mechanic, then as senior mechanic, and finally as head of the Arctic Stations Division in charge of all the Arctic weather stations. When Glavsevmorput was liquidated in 1963, he continued in the same position, but now with the Chief Administration of the Hydrometeorological Service. In this position, regular inspection flights were part of his duties, one that he enjoyed immensely. He was also responsible for the series of drifting stations which, following Ivan Papanin's pioneer SP-1 (Severnnyy Polyus 1 [North Pole 1]) in 1937, had been resurrected with SP-2 in 1950 and continued regularly thereafter. He never visited any of them, however. But, as with the land-based stations, he usually tried to inject a little humour into his messages. Thus in December 1967, when SP-15 happened to be within 2 km of the North Pole, he urged the staff to get there before it was too late. As a result a party hiked to the Pole and soon afterwards Kremer received the message: "Appropriate measures taken; Earth's axis thoroughly lubricated!" (Kanevskiy, 1982:194).

In February 1956, the Soviet Union initiated its Antarctic research programme by establishing Mirnyy station on the coast, followed by Vostok station in the interior, at the Pole of Inaccessibility, in December 1957. Both stations were deeply involved in the International Geophysical Year in 1957–59. While many of the Arctic stations for which Kremer was responsible were involved in its programmes, he also took a deep interest in how the Antarctic stations contributed.

Over a period of seven years, he also lectured regularly on the Arctic environment and history to young trainee weather observers and radio operators. He also gave talks on the Arctic to schools and from time to time acted as a jury member on TV quiz shows.

In the summer of 1963, Boris Aleksandrovich achieved a real milestone; in his "spare time" he had been working towards a BSc degree at Moscow State University, and in 1963 he graduated, having successfully defended his thesis entitled "Zemlya Frantsa-Iosifa: The history of exploration and present conceptions about its environment." He resisted pressures to proceed further with his formal education by working towards the degree of Candidate of Geographical Sciences, but this did not mean that he was not pursuing research and writing in his spare time. Over the period 1941 to 1978, he published at least 78 articles or encyclopedia entries, mainly on the history of Arctic exploration, in journals such as *Sovetskaya arktika*, *Morskoy flot*, *Meteorologiya*, *Gidrologiya*, *Vokrug sveta*, *Problemy Arktiki i Antarktiki*, *Ogonek*, *Izvestiya Vsesoyuznogo Geograficheskogo Obshchestva*, *Priroda* and *Letopis' Severa*, and newspapers such as *Pravda*, *Vodnyy Transport*, *Vechernaya Moskva*, and *Nedelya*, as well as entries in the *Bol'shaya Sovetskaya Entsiklopediya* and *Kratkaya Geograficheskaya Entsiklopediya*.

In achieving this output, Kremer relied on two impressive sources of information. First of all, he maintained a remarkable private card-index collection containing thousands of cards with details of scientists, explorers, geographical locations, and much more (Kanevskiy, 1982:197). Equally important was the fact that Boris Aleksandrovich was an avid bibliophile; by the time of his death, his private library contained 817 books, almost entirely on aspects of the Arctic, especially the history of exploration (Druzhinin, 1999). While some of the books represented gifts from authors who were aware of his passion, he was also known for being extremely generous, giving gifts of books to friends—and sometimes to near strangers (Kanevskiy, 1977:26). For example, he gave the author a copy of the collection of essays entitled *Russkiye arkticheskiye ekspeditsii XVII-XX vv.* (Belov, 1964), which includes his essay on the Austro-Hungarian North Pole expedition of 1872–74 (Kremer, 1964).

Even while he was still working (and even more so after his retirement), Kremer maintained a remarkably voluminous private correspondence. He did not use a typewriter until 1970; apart from a few rough drafts, none of his outgoing letters sent before that date have survived (although copies of radio messages have survived). From 1970 onwards, since he was using carbon paper, this entire correspondence has survived. The total correspondence (filed in fat folders) amounts to hundreds of letters, radio-message forms, telegrams, and postcards. He replied to every letter, and he noted on every single letter or envelope the date on which he replied to it.

RETIREMENT

On his 60th birthday on 18 March 1968, Boris Aleksandrovich retired (Fig. 4). Letters of congratulation

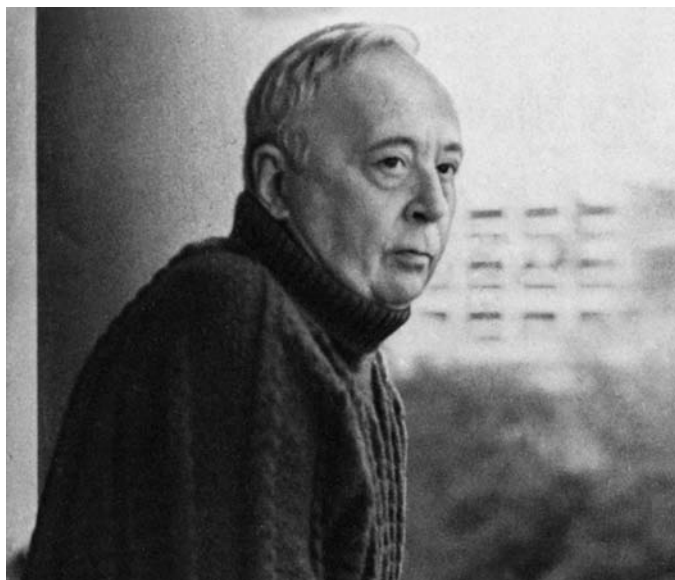


FIG. 4. An elderly Boris Kremer, 1974 (Courtesy of Priroda).

poured in from all over the country, from most of the Arctic and Antarctic stations, and also from overseas. One of which he was particularly proud was from Ivan Dmitriyevich Papanin, leader of the 1937–40 Severnyy Polyus (SP-1) drifting station and later head of Glavsevmorput (1939–46): “Your name will go down in the history of the Soviet Arctic for ever” (Kanevskiy, 1982:204).

Kremer had always maintained a lively correspondence on Arctic topics with school children, especially in his home region of Tul’skaya and Kaluzhskaya oblasti. He helped school children in Tarusa to organize their Vasily Pronchishchev Club for Young Polyarniki. And in May 1970, despite being in poor health, by making use of his contacts he was able to accompany a select group of 18 of them on a trip to Leningrad, where they visited the Museum of the Arctic and Antarctic and the Arctic and Antarctic Research Institute and even the icebreaker, *Ob’*, which had just returned from its regular visit to the Antarctic.

After retirement, he continued to serve on an impressive number of committees and, despite deteriorating health, tried to attend as many of their meetings as possible. He was a member of the Academic Council of the All-Union Geographical Society of the USSR, a member of the Praesidium of the Polar Commission, a member of the National Committee of Maritime Historians, and on the editorial board of the journal *Letopis’ Severa* [Annals of the North].

In the 1970s, probably stimulated by Dmitriy Shparo’s ski trip in 1970 from Ozero Taymyr [Lake Taymyr] to Mys Chelyuskin via the Ostrova Komsomol’skoy Pravdy [Komsomol’skaya Pravda Islands], Arctic trips, especially those promoted by the newspaper *Komsomol’skaya Pravda*, became very popular. There was also significant public opposition to these trips, however, in that they had no direct scientific or commercial benefit. Kremer,

however, strongly supported these endeavors, and set out his arguments in an article entitled “Again, as before, alone with the ice” (Kremer, 1973). He wrote: “These, above all, represent feats. Disinterested feats, for apart from the deep satisfaction of commitment these people as a rule receive no benefit. History testifies that mankind has always needed, still needs and, of course, will always need disinterested feats” (Quoted in Kanevskiy, 1982:215).

Towards the end of his life, Boris Aleksandrovich became a close friend of Dr. Terence Armstrong, Acting Director of the Scott Polar Research Institute in Cambridge, England; this friendship grew out of Armstrong’s major research foci, namely the Soviet North and especially the Northern Sea Route, on which subjects he published extensively (e.g., Armstrong, 1952, 1958, 1965). Apart from these various books, for many years Armstrong published an annual progress report on developments on the Northern Sea Route in the Institute’s journal, *Polar Record*.

On the afternoon of 13 January 1976, Terence Armstrong flew in to Moscow, looking forward to spending time with Boris Aleksandrovich. But that meeting did not take place; Boris Aleksandrovich had died, somewhat unexpectedly, that very morning. At his funeral Armstrong chose some very apt words (in Russian): “Dear Boris, you will always remain for us, men of various nationalities, the epitome and personification of the polyarnik” (Kanevskiy, 1982:223).

At her husband’s request, Natal’ya Valentinovna took the urn with his ashes to Severnaya Zemlya, on board an ice reconnaissance aircraft made available by special arrangement through his contacts at the Hydrometeorological Institute. There the urn was buried on Ostrov Domashniy, near where Kremer had buried his friend and colleague Il’ya Ivanovich Shventsov during that terrible winter of 1942–43, and where in the spring of 1965, he had also buried an urn with the ashes of his friend Georgiy Alekseyevich Ushakov, who in 1930–32, along with Nikolai Nikolayevich Urvantsev had first explored Severnaya Zemlya (Urvantsev, 1969; Ushakov, 1974; Barr, 1975b). A small monument of grey porphyritic granite with an appropriate plaque has since been erected on the site.

While, unlike his famous countrymen of the Great Northern Expedition from the Priokskiy kray, such as Chelyuskin or Chirikov, Boris Aleksandrovich Kremer made no new geographical discoveries, and as a result his name is largely unknown outside of Russian Arctic circles, his contribution was nonetheless impressive. In terms particularly of the two occasions when circumstances stretched a wintering at a remote Arctic weather station to two winterings, his courage and endurance, although of different types, easily matched those of his more famous countrymen. And his contribution as a weather observer or as the administrator in charge of the Arctic stations programme towards the development and ongoing operation of the Northern Sea Route represented an invaluable contribution. And finally, as a very likable, cultured human being, he had few equals.

ACKNOWLEDGEMENTS

Thank you to Robin Poitras, Cartographer, Department of Geography, University of Calgary, for providing the map of the Russian Arctic.

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